

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A liquid crystal display device comprising:
a display section which uses liquid crystal with a memory effect sufficient to keep information displayed for at least a day without application of a voltage thereto and without refreshing the information displayed thereon;
a driving section which drives the display section;
a control section which controls the driving section to write currently displayed information on the display section again at a specified time; and
a timer for detecting time elapsing, the timer beginning counting when information displayed on the display section is updated;
wherein the control section causes the driving section to rewrite currently displayed information on the display section upon the timer counting to a predetermined value corresponding to a predetermined period of time.
2. (Previously Presented) A liquid crystal display device according to claim 1, wherein the liquid crystal is chiral nematic liquid crystal which exhibits a cholesteric phase.
3. (Previously Presented) A liquid crystal display device according to claim 1, wherein:
the display section has a detecting section which detects a contact action with a screen of the display section; and
the control section controls the driving section to write currently displayed information on the display section again when a contact action is detected by the detecting section.

4. (Previously Presented) A liquid crystal display device according to claim 3, wherein the detecting section is a touch sensor.

5. (Cancelled).

6. (Previously Presented) A liquid crystal display device according to claim 1, wherein the control section controls the driving section to perform writing on part of the display section and thereafter to write currently displayed information on the display section again.

7. (Previously Presented) A liquid crystal display device according to claim 1, further comprising an electric power source.

8. (Previously Presented) A liquid crystal display device according to claim 7, further comprising a terminal through which electricity is charged in a battery from an external device.

9. (Previously Presented) A liquid crystal display device according to claim 8, wherein the external device is a refrigerator.

10. (Previously Presented) A liquid crystal display device according to claim 7, wherein the control section stops supply of electric power to the driving section after writing on the display section.

11. (Previously Presented) A liquid crystal display device according to claim 10, further comprising a booster circuit which raises a voltage supplied from the power source and applies the raised voltage to the driving section;

wherein the control section stops supply of electric power to the driving section by inactivating the booster circuit.

12. (Previously Presented) A liquid crystal display device according to claim 1, which is attachable to and detachable from an external device.

13. (Previously Presented) A liquid crystal display device according to claim 12, wherein the external device is a refrigerator.

14. (Previously Presented) A liquid crystal display device according to claim 1, wherein the information is about at least one of a calendar, a recipe, a message, stock, a picture and data reception from outside.

15. (Currently Amended) A method for driving a liquid crystal display which uses liquid crystal with a memory effect capable of retaining displayed information thereon for at least one day without the application of a voltage and without refreshing the displayed information, said method comprising the steps of:

driving the liquid crystal display to write specified information thereon;

initializing a timer for detecting time elapsing when the information on the liquid crystal display is updated; and

upon the timer reaching a predetermined value corresponding to a predetermined period of time, performing the steps of:

resetting the liquid crystal display; and

rewriting the information.

16. (Previously Presented) A liquid crystal display device according to claim 1, wherein the display section is reset by causing each pixel to come to a focal-conic state.

17. (Previously Presented) A liquid crystal display device according to claim 1, wherein the display section is reset by applying a pulse voltage to untwist liquid crystal which exhibits a cholesteric phase to each pixel.

18. (Currently Amended) A liquid crystal display device, comprising

a display section comprising a plurality of stacked layers, each of said layers comprising a first substrate which is a flexible substrate through which a viewer may view currently displayed information, a second substrate, and a liquid crystal material having a memory effect disposed between the first substrate and the second substrate, the plurality of layers being stacked such that the first substrate in a layer is positioned closer to a viewer side than the second substrate of the layer, the display section being capable of continuing to display information thereon for about one day without applying a voltage thereto and without refreshing the information displayed thereon;

a driving section which drives the display section;

a control section which controls the driving section to write currently displayed information on the display section again at a specified time; and

a timer for detecting time elapsing, the time beginning counting when information displayed on the display section is updated;

wherein the control section causes the driving section to rewrite currently displayed information on the display section upon the timer counting to a predetermined value corresponding to a predetermined period of time.

19. (Currently Amended) A liquid crystal display device, comprising:

a display section which uses liquid crystal with a memory effect capable of displaying an image thereon for at least one day without the application of a voltage thereto and without refreshing the information displayed thereon;

a driving section which drives the display section;

a control section which controls the driving section to write currently displayed information on the display section again at a specified time; and

a manual operating member operable by a user;

wherein the control section causes the driving section to rewrite currently displayed information on the display section upon operation of the manual operating member.

20. (Previously Presented) A liquid crystal display device according to claim 1, wherein the control section causes the driving section to rewrite currently displayed information on the display section upon the timer counting to a predetermined value corresponding to a predetermined period of time of no detected input activity after updating of the display section.

21. (Previously Presented) A liquid crystal display device according to claim 1, wherein the control section stops power supply to the driving section after updating of the display section and restarts power supply to the driving section when the driving section starts rewriting currently displayed information on the display section upon the timer counting to the predetermined value.

22. (Previously Presented) A liquid crystal display device according to claim 1, further comprising an operating member for permitting a user to input a rewrite command to command the display section to rewrite currently displayed information on the display section.

23. (Previously Presented) A liquid crystal display device according to claim 19, wherein the manual operating member is a member for an exclusive purpose of inputting a rewrite command to command rewriting currently displayed information on the display section.

24. (Previously Presented) A liquid crystal display device according to claim 19, wherein the specified time is a predetermined period of time of no change of the display section after updating of the display section.

25. (Previously Presented) A liquid crystal display device according to claim 1, wherein:

the display section comprises a flexible substrate; and

in order to prevent the information displayed on the display section from being

degraded by pressure applied to the display section, the information is rewritten on the display section.

26. (Previously Presented) A liquid crystal display device according to claim 1, wherein:

the display section comprises a touch panel; and

in order to prevent the information displayed on the display section from being degraded by pressure applied to the display section, the information is rewritten on the display section.

27. (Previously Presented) A method according to claim 15, wherein:

the liquid crystal display comprises a flexible substrate; and

in order to prevent the information displayed on the liquid crystal display from being degraded by pressure applied to the liquid crystal display, the step of rewriting is performed.

28. (Previously Presented) A method according to claim 15, wherein:

the liquid crystal display comprises a touch panel; and

in order to prevent the information displayed on the liquid crystal display from being degraded by pressure applied to the liquid crystal display, the step of rewriting is performed.

29. (Previously Presented) A liquid crystal display device according to claim 18, wherein in order to prevent the information displayed on the display section from being degraded by pressure applied to the display section, the information is rewritten on the display section.

30. (Previously Presented) A liquid crystal display according to claim 18, wherein:

the display section further comprises a touch panel; and

in order to prevent the information displayed on the display section from being

degraded by pressure applied to the display section, the information is rewritten on the display section.

31. (Previously Presented) A liquid crystal display device according to claim 19, wherein:

the display section comprises a flexible substrate; and

in order to prevent the information displayed on the display section from being degraded by pressure applied to the display section, the information is rewritten on the display section.

32. (Previously Presented) A liquid crystal display device according to claim 19, wherein:

the display section comprises a touch panel; and

in order to prevent the information displayed on the display section from being degraded by pressure applied to the display section, the information is rewritten on the display section.

33. (New) A liquid crystal display device comprising:

a display section comprising chiral nematic liquid crystal which exhibits a cholesteric phase and which has a memory effect sufficient to keep information displayed for at least a day without application of a voltage thereto and without a refresh drive;

a driving section which drives the display section;

an electric power source;

a booster circuit which raises a voltage supplied from the power source and applies the raised voltage to the driving section;

a control section which controls the driving section to write currently displayed information on the display section again at a specified time; and

a timer for detecting time elapsing, the timer beginning counting when information displayed on the display section is updated;

wherein:

the control section causes the driving section to rewrite currently displayed

information on the display section upon the timer counting to a predetermined value corresponding to a predetermined period of time;

the control section stops supply of electric power to the driving section by inactivating the booster circuit; and

the display section is reset by applying a pulse voltage to untwist the chiral nematic liquid crystal to each pixel.

34. (New) A liquid crystal display device according to claim 33, wherein all the pixels in an area of the display section to be subjected to writing are reset simultaneously.

35. (New) A liquid crystal display device according to claim 34, wherein the pixels in an area of the display section to be subjected to writing are reset line by line.